WARRANTY

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To: Psiber Data Sytems Inc.
7075-K Mission Gorge Road
San Diego, CA 92120
RA# XXXXXXXX

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P/N 1005-0350-0001 Rev. A

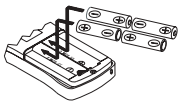
LANMASTER 35™
POWER AND LINK TESTER
USER GUIDE

psiber

BOX CONTENTS

- LanMaster 35 Power and Link Tester
- Carrying Case
- User Guide
- Four AA Alkaline Batteries
- CableTracker 15 Tone Tracing Probe (Optional)

BATTERY

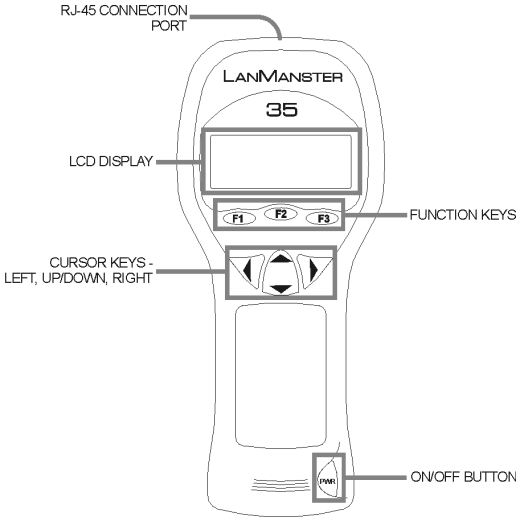


The LanMaster 35 operates on four AA alkaline batteries. Remove the battery cover at the back of the unit and insert the batteries with the orientation as shown. Battery polarity is marked inside the battery well for reference.

TECHNICAL OVERVIEW

The LanMaster 35 Power and Link Tester provides seven different test capabilities: 1) tests network connections for IEEE 802.3af, Cisco pre-standard and non standard types of power, 2) conducts a power test with an actual load to verify the amount of power available, 3) measures Link Resistance, 4) identifies speed and duplex modes for 10/100/1000baseTX Ethernet Links, 5) provides a Port Identification function with selectable blink rates to locate which port on a hub or switch that a wall outlet is connected, 6) measures the cable length (only when the cable is not connected to active equipment), 7) transmits a tone signal that allows the cable to be traced or a punchdown identified with the CableTracker 15 Tone Probe.

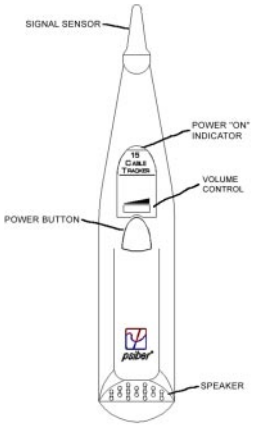
MECHANICAL FEATURES



CABLETRACKER 15 TONE PROBE (OPTIONAL)

OVERVIEW

The CableTracker Model 15 Probe identifies cables and terminations by detecting a trace tone signal transmitted by the LanMaster 35. When the Probe is near the correct cable pair or punchdown, it indicates detection by emitting an audible signal with the same pattern that is selected on the LanMaster 35.



CABLE TRACING

Connect the LanMaster 35 to the RJ-45 on a cable. Turn on the Model 15 Probe by pressing and holding the button. Place the probe tip near the cable or termination to be identified and the Probe will emit an audible signal. The audible signal is loudest when the Probe is near the correct cable or termination point. The volume can be adjusted by rotating the thumbwheel located above the button. The Power "ON" indicator is illuminated when the unit is on and the battery has adequate voltage.

BATTERY

The CableTracker Model 15 Probe operates on one 9 volt alkaline battery. Remove the battery cover at the back of the unit, connect the battery to the battery snap cable, insert the battery in the battery well and replace the battery cover.

BATTERY LIFE

The Model 15 Probe will operate for approximately 16 hours on one 9 volt alkaline battery. When the battery is below the level required for the Model 15 to operate properly, the Power "ON" indicator will not illuminate.

BATTERY LIFE

Duration - The LanMaster 35 will typically provide about 5 to 6 hours of operation from a set of four AA alkaline batteries.

Auto Power Down - The Lanmaster 35 will automatically turn off after the time selected in the Power Down Setup screen or will run continuously until manually turned off when “ON” is selected for Power Down.

Low Battery - When the batteries are below the level required for the LanMaster 35 to operate properly, a battery graphic appears in the upper right hand corner of the display.

SAFETY

Disconnect any connections to the LanMaster 35 RJ-45 before opening the battery cover.

OPERATION

To test a hub, switch, router or NIC, connect a patch cable from the RJ-45 port on the equipment, patch panel or wall outlet to the RJ-45 jack on the LanMaster 35.

START SCREEN

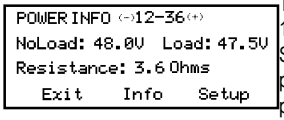
Turn on the LanMaster 35 by pressing the “PWR” button. The unit displays an information screen and then the START screen for selecting a test.

POWER TEST

Pressing the POWER function key begins a voltage scan of all wire pairs on the RJ-45 connection. If no voltage(s) is found, a “No Power” message is displayed and an EXIT function is provided to return to the START Screen.

When voltage(s) is detected the POWER display is presented. The power configuration is shown as “End-Span” (pairs 1,2 and 3,6), “Mid-Span” (pairs 4,5 and 7,8) or “All-Span” (pairs 1,2 4,5 and 3,6 7,8). The type of power is displayed as “PoE Standard” (complies with IEEE 802.3af), “Cisco” (Cisco pre-standard power) or “Non Standard”. The voltage and polarity of the powered wire pairs are also displayed. NOTE: If power is detected on additional wire pairs, a double headed arrow will appear next to “Pair”. Pressing the UP/DOWN cursor key will scroll through the additional wire pairs. The voltage measurements are continuously updated in the POWER screen.

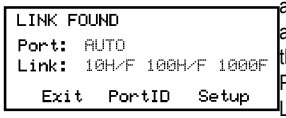
Pressing the INFO function key presents the POWER INFO Screen and starts a loaded power test. The “No Load” and “Load” voltages are displayed. The load test for a PoE Standard Link is about 10 Watts and the load test for a Cisco Pre-Standard Link is about 5 Watts. (The loaded power test is not available for Non-Standard power types or when less than 40 Volts is measured for PoE Standard and Cisco Pre-Standard Links.) A voltage difference of about 0.5 to 1.0 Volts is typical for short cables (1 to 25 feet) and 2.0 to 3.0 Volts is typical for long cables (200 to 300 feet). Larger voltage drops indicate a problem in the cabling system or an under powered port. Link Resistance is shown and is typically 0.5 Ohms for the port plus 2.0 to 2.5 Ohms per 100 feet of cable. Higher resistance values indicate a problem with the cabling system. Pressing the UP/DOWN cursor key will scroll through any additional wire pairs that have voltage and display Link Resistance for each pair. Pressing the INFO function key returns to the POWER Screen.



LINK TEST

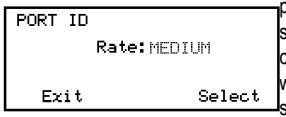
Pressing the LINK function key in the START screen begins a scan of the RJ-45 connection for Link signals. If no Link signals are found, a "No Link Found" message is displayed and EXIT and LENGTH function keys are provided.

When Link signals are detected, the LanMaster 35 displays the connection as a LAN, NIC or an Auto MDI-X port; the speed and duplex capabilites of the Link Partner. When the Link is established, the EXIT, SETUP and PORT ID function keys are displayed. Note: If a Link Partner is not set to Auto-negotiate, the duplex mode is unknown (shown as "UN" in the LINK screen). This is due to the type of Link signals used in fixed modes.



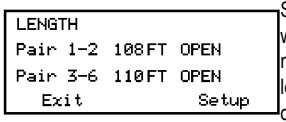
PORT ID

Pressing the PORT ID function key in the Link Screen presents the Port ID Screen. As soon as this screen appears, the LanMaster 35 begins transmitting a pattern of Link signals that will cause the hub, switch or NIC Link LED to blink or stay on continuously. This will identify the specific port a wall outlet or PC is connected. Hubs and switches from various manufacturers have different specifications for the time it takes for Link signals to turn the Link LED on and off. The LanMaster 35 has four different blink rates and a continuous mode that can be selected by pressing the Up/Down cursor key. An initial test directly at the hub or switch will determine the best blink rate setting before conducting a Port ID test at a wall outlet.



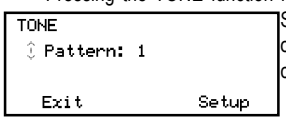
LENGTH

The LENGTH function is only available when the LINK Test shows a "No Link Found" condition. Pressing the LENGTH function key presents the LENGTH Screen. Length is measured on pairs 1,2 and 3,6 with a minimum length of 6 feet (2 meters) and a maximum length of 330 feet (100 meters). The lengths of the two cable pairs may be slightly different depending on how the pairs are twisted together in the cable. The length measurement is to the nearest open or short in the cable run. Typically this is an open at the end of the cable (disconnected RJ-45 or unterminated cable). The LENGTH function should be used to identify cable faults and provide the approximate location. The TONE function can then be used with the CableTracker 15 Tone Probe to pinpoint the fault location.



TONE

Pressing the TONE function key in the START Screen presents the Tone Screen and the LanMaster 35 begins transmitting one of four tone patterns. Pressing the Up/Down cursor key changes the tone pattern.

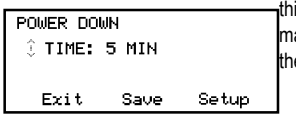


SETUP

Pressing the SETUP function key in any screen presents the Setup Screen. The Up/Down cursor key is used to display: 1) Power Down Time Setup 2) Detection Level Setup 3) Units Setup and 4) Link Search Time Setup. Press the SELECT function key to enter the displayed setup screen.

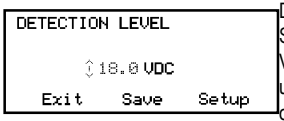
POWER DOWN SETUP

The LanMaster 35 will automatically turn off after the time selected in the Power Down Setup screen. Settings available are five minutes, fifteen minutes, thirty minutes and on (must be turned off manually). Press the SAVE function key to store the selected setting.



DETECTION LEVEL SETUP

The minimum voltage Detection level for the Power Test for PoE Standard and Cisco Pre-Standard power is fixed at 40 Volts. The minimum voltage Detection level for the Power Test for Non-Standard power can be set from 12.5 Volts to 24 Volts (the default is 18 Volts). This allows the user to test for other types of power that may be on a connection such as some types of PBXs. Pressing the Up/Down cursor key changes the level in 0.5V increments. Press the SAVE function key to store the selected setting.



UNITS SETUP

The Units Setup Screen is used to select the units used when displaying the length measurement in the Length screen. The Up/Down cursor key is used to select Feet or Meters. Press the Save function key to store the selected units.

LINK SEARCH SETUP

The Link Search setup screen is used to set the length of time that the LanMaster 35 will monitor a wire pair for Link signals. The available settings are Normal (default setting of about 2.5 seconds) and Long (about 5 seconds). Use the Up/Down cursor key to select the setting. Some switches, especially if configured for VoIP, require a longer time to complete Link negotiations and the Long setting will provide more consistent Link detection.